

P r a t i n r ' D k t N .

1348/110

PATENT

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Patent application

of \_\_\_\_\_  
Inventor(s)for \_\_\_\_\_  
Title of invention

OR

In re application of: Percival

Application No.: N/A

Group Art Unit: N/A

Filed: filed herewith

Examiner: N/A

For: Method and System for Coherently Caching I/O Devices Across a Network

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

## INFORMATION DISCLOSURE STATEMENT

## CERTIFICATE UNDER 37 C.F.R. § 1.8(a) and 1.10\*

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I hereby certify that this correspondence is, on the date shown below, being:

## MAILING

☐ deposited with the United States Postal Service in an envelope addressed to the Commissioner for Patents,  
P.O. Box 1450, Alexandria, VA 22313-1450**37 C.F.R. § 1.8(a)****37 C.F.R. § 1.10\***☐ with sufficient postage as first class mail.☒ as "Express Mail Post Office to Addressee"Mailing Label No. EV 333083479 US (**mandatory**)

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Date: October 10, 2003

Signature

Robert M. Asher

(type or print name of person certifying)

(Information Disclosure Statement [6-1]--page 1 of 11)

**NOTE:** "An information disclosure statement shall be considered by the Office if filed by the applicant within any one of the following time periods:

- (1) Within three months of the filing date of a national application other than a continued prosecution application under § 1.53(d);
- (2) Within three months of the date of entry of the national stage as set forth in § 1.491 in an international application;
- (3) Before the mailing date of a first Office action on the merits; or
- (4) Before the mailing date of a first Office action after the filing of a request for continued examination under § 1.114."

37 C.F.R. § 1.97(b).

**NOTE:** "Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability as defined in this section." 37 C.F.R. § 1.56(a).

"Individuals associated with the filing or prosecution of a patent application within the meaning of this section are:

- (1) each inventor named in the application;
- (2) each attorney or agent who prepares or prosecutes the application; and
- (3) every other person who is substantively involved in the preparation or prosecution of the application and who is associated with the inventor, with the assignee or with anyone to whom there is an obligation to assign the application." 37 C.F.R. § 1.56(c).

**NOTE:** The "duty as described in § 1.56 will be met so long as the information in question was cited by the Office or submitted to the Office in the manner prescribed by §§ 1.97(b)-(d) and 1.98 before issuance of the patent." Notice of January 9, 1992, 1135 O. G. 13 -25 at 17.

**WARNING:** "No information disclosure statement maybe filed in a provisional application." 37 C.F.R. § 1.51(d).

### List of Sections Forming Part of This Information Disclosure Statement

The following sections are being submitted for this Information Disclosure Statement:

(check sections forming a part of this statement: discard *unused* sections and number pages consecutively)

1. ☒ Preliminary Statements
2. ☒ FORMS PTO/SB/08A and 08B (formerly FORM PTO-1449)
3. ☐ Statement as to Information Not Found in Patents or Publications
4. ☒ Identification of Prior Application in Which Listed Information Was Already Cited and for Which No Copies Are Submitted or Need Be Submitted
5. ☐ Cumulative Patents or Publications
6. ☐ Copies of Listed Information Items Accompanying This Statement
7. ☐ Concise Explanation of Non-English Language Listed Information Items
  - 7A. ☐ EPO Search Report
  - 7B. ☐ English Language Version of EPO Search Report
8. ☐ Translation(s) of Non-English Language Documents
9. ☐ Concise Explanation of English Language Listed Information Items (Optional)
10. ☒ Identification of Person(s) Making This Information Disclosure Statement

**NOTE:** "Once the minimum requirements are met the examiner has an obligation to consider the information." Notice of April 20, 1992 (1138 O.G. 37-41, 37).

**Section 1. Preliminary Statements**

Applicants submit herewith patents, publications or other information, of which they are aware that they believe may be material to the examination of this application, and in respect of which, there may be a duty to disclose.

The filing of this information disclosure statement shall not be construed as a representation that a search has been made (37 C.F.R. § 1.97(g)), an admission that the information cited is, or is considered to be, material to patentability, or that no other material information exists.

The filing of this information disclosure statement shall not be construed as an admission against interest in any manner. Notice of January 9, 1992, 1135 O.G. 13-25, at 25.

In addition to the Form PTO/SB/08A, also enclosed are the following:

- Information Disclosure Statement dated April 1, 1998
- Declaration of Pamela Cleveland dated March 30, 1997
- Declaration of Eric Dickman dated March 30, 1998
- Declaration of Eric Dickman dated July 16, 1997
- Declaration of Eric Dickman dated January 30, 1996

**SECTION 2. FORMS PTO/SB/08A and 08B (formerly Form PTO-1449)****IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicants: Percival Attorney Docket: 1348/110  
Serial No: N/A Art Group Unit: N/A  
Date Filed: filed herewith Examiner Name: N/A  
Invention: Method and System for Coherently Caching I/O Devices Across a Network

**LIST OF PATENTS AND PUBLICATIONS FOR APPLICANTS'  
INFORMATION DISCLOSURE STATEMENT****United States Patents**

Examiner Initials	Reference Number	Document Number	Issue Date	Inventor	Class/Subclass
_____	AA	3,820,078	June 25, 1974	Curley et al.	395/250
_____	AB	4,755,930	Jul. 5, 1988	Wilson, Jr. et al.	395/449
_____	AC	4,775,955	Oct. 4, 1988	Liu	395/472
_____	AD	4,849,879	Jul. 18, 1989	Chinnaswamy et al.	395/60
_____	AE	5,025,366	Jun. 18, 1991	Baror	395/455
_____	AF	5,060,144	Oct. 22, 1991	Sipple et al.	395/726
_____	AG	5,062,055	Oct. 19, 1991	Chinnaswamy et al.	364/551.01
_____	AH	5,067,071	Nov. 19, 1991	Schanin et al.	395/293
_____	AI	5,091,846	Feb. 25, 1992	Sachs et al.	395/250
_____	AJ	5,136,691	Aug. 4, 1992	Baror	395/466
_____	AK	5,185,878	Feb. 9, 1993	Baror et al.	395/450
_____	AL	5,241,641	Aug. 31, 1993	Iwasa et al.	395/449
_____	AM	5,265,235	Nov. 23, 1993	Sindhu et al.	395/447
_____	AN	5,282,272	Jan. 25, 1994	Guy et al.	395/200.0
_____	AO	5,307,506	Apr. 26, 1994	Colwell et al.	395/800
_____	AP	5,323,403	Jun. 21, 1994	Elliott	371/37.6
_____	AQ	5,335,327	Aug. 2, 1994	Hisano et al.	395/250
_____	AR	5,347,648	Sept. 13, 1994	Stamm et al.	395/182.0
_____	AS	5,353,430	Oct. 4, 1994	Lautzenheiser	395/444
_____	AT	5,363,490	Nov. 8, 1994	Alferness et al.	395/581
_____	AU	5,390,318	Feb. 13, 1995	Ramakrishnan et al.	395/485
_____	AV	5,426,747	Jun. 20, 1995	Weinreb et al.	395/413
_____	AW	5,606,681	February - 1997	Smith et al.	395/445
_____	AX	5,452,447	November - 1995	Nelson et al.	395/440

_____	AY	5,566,315	October – 1996	Milillo et al.	395/440
_____	CZ	5,301,290	Apr. 5, 1994	Tetzlaff et al.	395/425
_____	DA	5,408,653	Apr. 18, 1995	Josten et al.	395/600

### Foreign Patent Documents

Examiner Initials	Reference Number	Document Number	Issue Date
_____	AZ	JP64-36351	May 24, 1989

### OTHER REFERENCES

Exam. Init.	Ref. No.	Document
_____	BA	"The Stanford Dash Multiprocessor", Lenoski et al., Computer, IEEE Computer Society, March 1992, pp. 63-79.
_____	BB	"Cache-Coherency Protocols Keep Data Consistent", Gallant, J., Electronic Technology for Engineers and Engineering Managers, March 14, 1991.
_____	BC	"Disk Cache Replacement Policies for Network Fileservers", Willick, D.L., Distributed Computing Systems, 1993 Int'l. Conf., pp.2-11.
_____	BD	"xFS; A Wide Area Mass Storage File System", Wang, Randolph Y. et al., Workstation Operating Systems, 1993, pp. 71-178.
_____	BE	"Linked List Cache Coherence for Scalable Shared Memory Multiprocessors", Thapar, Manu et al., Parallel Processing, 1993 Symposium, pp. 34-43.
_____	BF	"The S3.Manufacturing Procedure Scalable Shared Memory Multiprocessor", Nowatzky, Andreas et al., System Sciences, 1994 Ann. Hawaii Int'l. Conf., Vol, I, 1/4/94, pp. 144-153.
_____	BG	TURBOCACHET™/TURBODISK™ Software Product Description, EEC Systems, Incorporated, Revised February 24, 1992.

- \_\_\_\_\_ BH TURBOCACHETM/TURBODISK™ Quick Start Guide, EEC Systems Incorporated, February 24, 1992
- \_\_\_\_\_ BI TURBOCACHETM Software Product Description, EEC Systems, Incorporated, Revised: February 24, 1992
- \_\_\_\_\_ BJ TURBOCACHETM/TURBODISK™, Cover Letter and Release Notes (\*read me first\*), EEC Systems, Incorporated, February 24, 1992.
- \_\_\_\_\_ BK TURBOCACHETM/TURBODISK™ Software Installation and User's Guide, EEC Systems Incorporated, February 24, 1992.
- \_\_\_\_\_ BL "SuperCache™ - Open VMS I/O Performance Accelerator", Software Product Description SuperCache™, 1992, 1993 Turbo Systems International s.a.
- \_\_\_\_\_ BM "SuperCache™ V.1.2 User and Installation Guide, a TurboWare™ Product", V1.2-08.
- \_\_\_\_\_ BN "VMS File System Internals" Kirby McCoy, Digital Press, Digital Equipment Corporation, 1990.
- \_\_\_\_\_ BO "The VAX/VMS Distributed Lock Manager", Snaman, Jr., William E et al., *Digital Technical Journal*, No. 5, Sept. 1987
- \_\_\_\_\_ BP "The Design and Implementation of a Distributed File System", Goldstein, *Digital Technical Journal*, No. 5, Sept. 1987
- \_\_\_\_\_ BQ "File System Operation in a VAXcluster Environment", Chapter 8, *VMS File System Internals, McCoy, Digital Press, 1990*
- \_\_\_\_\_ BR Howard, John, "An Overview of the Andrew File System", USENIX Winter Conference, Feb. 9-12, 1988, Dallas, Texas
- \_\_\_\_\_ BS Tanenbaum, Andrew S., "Operating Systems: Design and Implementation", Prentice-Hall, Inc., 1987
- \_\_\_\_\_ BT Gray, Cary G. et al., "Leases: An Efficient Fault-Tolerant Mechanism for Distributed File Cache Consistency", 1989 ACM 089791-338-3/89/0012/0202

- \_\_\_\_\_ BU Macklem, Rick, "Lessons Learned Tuning the 4.3BSD Reno Implementation of the NFS Protocol", USENIX, Winter'91, Dallas, Texas
- \_\_\_\_\_ BV Kazar, Michael L., "Synchronization and Caching Issues in the Andrew File System", USENIX Winter Conference, Feb. 9-12, 1988, Dallas, Texas
- \_\_\_\_\_ BW Sinniah, Raymond R., "An Introduction to the Andrew File System" <http://homepages.uel.ac.uk/5291n/afs/afsd.html>
- \_\_\_\_\_ BX Duncan, Ray, "Design Goals and Implementation of the New High Performance File System", *Microsoft Systems Journal*, Sept. 1989, Vol. 4, No. 5
- \_\_\_\_\_ BY Bell, Les, "OS/2 High Performance File System", <http://www.lesbell.com.ati/hpfstest.html>
- \_\_\_\_\_ BZ Kumar, Puneet et al., "Log-Based Directory Resolution in the Coda File System", 1993 IEEE 0-8186-3330-1/93
- \_\_\_\_\_ CA Mogul, Jeffrey C., "A Recovery Protocol for Sprite NFS", USENIX Association File Systems Workshop, May 21-22, 1992, Ann Arbor, Michigan
- \_\_\_\_\_ CB Seltzer, Margo et al., "An Implementation of a Log-Structured File System for UNIX", 1993 Winter USENIX, Jan. 25-29, 1993, San Diego, California
- \_\_\_\_\_ CC McKusick, Marshall et al., "The Network Filesystem", Chapter 9 of "The Design and Implementation of the 4ABSD Operating System", 1996
- \_\_\_\_\_ CD PC Tech, "Understanding the OS/2 CONFIG-SYS File", PC Magazine
- \_\_\_\_\_ CE Jang, Saqib, "NFS and DFS A Functional Comparison", AUSPEX Technical Report 15, April 1997
- \_\_\_\_\_ CF Transarc Corporation, "The AFS File System in Distributed Computing Environments", May 1, 1996

- \_\_\_\_\_ CG Mena, Agustin et al., "Performance Characteristics of the DCE Distributed File Service",  
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- \_\_\_\_\_ CH "Global File Sharing", Sun Microsystems, Inc., 1996
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three-tiered package for  
VAXClusters." Digital Review, Cahners Publishing Co., March 16,  
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- \_\_\_\_\_ CP "I/O Express User's Guide", Executive Software International,  
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- \_\_\_\_\_ CQ "I/O Express Technical Reports", Executive Software International,  
Glendale, CA.; February 1992 - January 1993.
- \_\_\_\_\_ CR "Field Test Guide for I/O Express Dynamic Data Caching for  
VAX/VMS", Executive Software, Glendale, CA.' 9/1989.
- \_\_\_\_\_ CS "Diskeeper User's Guide V2.1- Errata'", Executive Software, Glendale,  
CA.; April 1989.



- \_\_\_\_\_ CT "Executive Software's Newkeeper", Executive Software, Glendale, CA.; Vol. 4 Issue 4, 1991.
- \_\_\_\_\_ CU "SuperCache-Open VMS I/O Performance Accelerator", TurboSystems International s.a., distributed by EEC Systems, Inc., Sudbury, MA. 1993
- \_\_\_\_\_ CV "Executive Software's Newskeeper", Executive Software, Glendale, CA., Vol. 3, Issue 8, May/June 1990.
- \_\_\_\_\_ CW "Executive Software's Newskeeper", Executive Software, Glendale, CA., Vol. 3, Issue 9, July/August 1990.
- \_\_\_\_\_ CX "Executive Software's Newskeeper", Executive Software, Glendale, CA., Vol. 4, Issue 1, 1991.
- \_\_\_\_\_ CY "Executive Software's Newskeeper", Executive Software, Glendale, CA., Vol. 4, Issue 3, 1991

Examiner Signature: \_\_\_\_\_

Date Considered: \_\_\_\_\_

NOTE FOR EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance AND not considered. Include copy of this form with next communication to applicant.

**Section 4. Identification of Prior Application in Which Listed Information Was Already Cited**

**NOTE:** "A copy of any patent, publication or other information listed in an information disclosure statement is not required to be provided if it was previously cited by or submitted to the Office in a prior application, provided that the prior application is properly identified in the statement and relied upon for an earlier filing date under 35 U.S.C. 120." 37 C.F.R. § 1.98(d).

**WARNING:** "This exception to the requirement for copies of information does not apply to information which was cited in an international application under the Patent Cooperation Treaty." Notice of April 20, 1992 (1138 O.G. 37-41, 38)

**WARNING:** "Information which is cited or submitted to the Office in the parent application of a file wrapper continuing application under 37 C.F.R. 1.62 will be part of the file before the examiner and need not be resubmitted in the continuing application. Likewise, the examiner will consider information cited or submitted to the Office in a parent application when examining a continuing application and thus this information need not be resubmitted unless applicant desires the information to be printed on the patent." Notice of April 20, 1992 (1138 O.G. 37-41, 37)

**WARNING:** While a copy of a non-English language item of information need not be submitted, if it was previously submitted to, or cited by, the Office in a prior application, provided it is properly identified in this statement and this application relies on that earlier filing date under 35 U.S.C. 120, nevertheless, the requirement in § 1.98(a)(3) for a concise explanation of non-English language information would not be satisfied by a statement that a reference was cited in the prosecution of a parent application. The concise explanation must explain the relevance, as presently understood by the person designated in § 1.56(c) most knowledgeable about the content of the information. Notice of January 9, 1992, 1135 O.G. 13-25, at 20.

This application relies, under 35 U.S.C. § 120, on the earlier filing date of prior application S.N. 10/052,873 filed on January 16, 2002 which claims priority from application S.N. 09/300,633 filed on April 27, 1999 issued as U.S. Patent No. 6,370,615 on April 9, 2002. This application also relies, under 35 U.S.C. § 120 on the earlier filing date of S.N. 08/657,777, filed on May 31, 1996 issued as U.S. Patent No. 5,918,244 and S.N. 08/238,815, filed on May 6, 1994 issued as U.S. Patent No. 5,577,226 and prior application S.N. 10/052,873.

(complete the following, if applicable)

The following references were submitted to, and /or cited by, the Office in the prior application(s) and, therefore, are not required to be provided in this application:

AA-DA

**Section 10. Identification of Person(s) Making This Information Disclosure Statement**

The person making this statement is

(check each applicable item)

- (a) ☐ the inventor(s) who signs below

\_\_\_\_\_  
SIGNATURE OF INVENTOR

\_\_\_\_\_  
(type or print name of inventor who is signing)

- (b) ☐ an individual associated with the filing and prosecution of this application (37 C.F.R. § 1.56(c))

\_\_\_\_\_  
SIGNATURE OF INVENTOR

\_\_\_\_\_  
(type or print name of inventor who is signing)

- (c) ☒ the practitioner who signs below on the basis of the information:

(check each applicable item)

- ☐ supplied by the inventor(s).  
☐ supplied by an individual associated with the filing and prosecution of this application. (37 C.F.R. § 1.56(c))  
☒ in the practitioner's file.

Reg. No.: 30,445

  
SIGNATURE OF PRACTITIONER

Tel. No.: (617) 443-9292

Robert M. Asher

\_\_\_\_\_  
(type or print name of person certifying)

Customer No.: 002101

Bromberg & Sunstein LLP  
125 Summer Street, Boston, MA 02110